

ATR8000 NEWSLETTER: MARCH 1983

We would like to thank you for believing enough in us to purchase your ATR8000 from our premier production runs. As with any new product, we have made some hardware and software changes to the units. This newsletter will tell you what we are doing with the ATR8000 and how it may or may not affect you. The newsletter also includes the answers to some of the ATR8000 owners' most commonly asked questions.

We would like to apologize for any inconveniences that you may have encountered due to "quirks" in your ATR8000. You, as users of the earliest units, have helped us to diagnose and solve some minor problems with the early units. We would like to thank you for your aid in helping us to make the ATR8000 the most viable, versatile ATARI upgrade in the current computer market.

If your unit was shipped with a Version 1 ROM, you should have received your Version 2.0 ROM by now. This ROM is accompanied by documentation that describes changes and new features, such as the new automatic ATARI DOS printer buffer.

Standard Policies:

We have adopted the following as our standard policies for handling repairs and problems. Whenever you send hardware or software to us, be sure to include a note describing the problem. If it's hardware, be sure to clearly mark the repair authorization number on the outside of the shipping carton.

1) Service Policy:

Due to the growing number of ATR8000 users, we have established a new service policy. Rather than trying to solve problems over the phone, which can be extremely time consuming (especially when we talk to those of you who have access to WATTS lines!) and expensive, we will solve most problems here at our facilities. If you are having problems and think they are related to the ATR8000, call us and tell us the symptoms. If it sounds like something is wrong with the ATR8000's hardware, we will give you a repair authorization number. Then ship us your unit (and peripherals if we tell you they are suspect), clearly marking the authorization number on the shipping carton.

If there is a problem with your unit and it is under warranty, we will repair it and return it to you immediately without charging you for labor or return shipping.

If the unit is not broken, you may be assessed for labor and return shipping (labor is billed at a rate of \$35/hr). If the unit is out of warranty, labor and return shipping charges may apply (we will not charge for work done to upgrade early ATR8000s to the condition of the current ATR8000s).

2) Software Problems:

If you are having difficulties in getting an ATARI or CP/M program to run on the ATR8000, first call us to see if there is a simple solution. If there is not, we will have you send us a copy and we will do our best to resolve the problem.

ATARI DOS Notes:

PRINTOFF.BAS:

PRINTOFF.BAS, LINE 190 is different for the 2.0 ROM. This change is noted in the 2.0 documentation. The error message for this program, listed on Page 46 in the manual, is incorrectly documented. If you attempt to print from the ATR8000's PRINTER Port while PRINTOFF.BAS is active, ERROR 138 will show on the screen.

ATRMON.BAS:

The ATRMON.BAS global variables listed in Appendix B are not the correct variables for the 2.0 ROM. The new variables are included in the 2.0 ROM documentation.

SERDRV.BAS:

The listing of SERDRV.BAS sets the baud rate at 1200. The baud rate can be changed to be either 2400, 4800 or 9600 by changing the second variable in Line 2003 to read:

```
1200 Baud: 2003 DATA 22,200,21,32,253,201
2400 Baud: 2003 DATA 22,100,21,32,253,201
4800 Baud: 2003 DATA 22,48,21,32,253,201
9600 Baud: 2003 DATA 22,22,21,32,253,201
```

Hard Sectorred Disks:

Some ATARI programs come on hard sectorred disks. Hard sectorred disks have multiple index holes, whereas soft sectorred disks only have one index hole. To run hard sectorred disks you need to understand a little of how the ATR8000 works.

When the ATR8000 is turned on and a DOS is booted, the ATR8000 doesn't know if the drives are 5 1/4" or 8" or a mixture. So the first time a drive is selected after a boot, the ATR8000 analyzes the index hole of the disk in the drive to determine the disk size. It does this by calculating the RPM of the disk. A 5 1/4" disk rotates at 300 RPM or less. An 8" disk rotates at 350 RPM.

Soft sectorred disks have one index hole, making the size analysis possible. A hard sectorred disk has multiple index holes which confuse the size analysis process. When the system is booted and after a drive has been selected once, it will not be reanalyzed for size unless the system is rebooted.

So to use a hard sectorred disk when the system has been newly booted, you need to follow a special procedure. When using a hard sectorred disk, it is not necessary to do anything special if the drive the disk will be run from has already been selected when it held a soft sectorred disk.

First, you can determine if a disk has hard sectors by doing one of the following:

- #1 Look at the drive light when the disk is being run. If it flashes on and off the disk is hard sectorred.
- #2 Gently spin the disk in the disk jacket. Watch for index holes. A hard sectorred disk will have several holes, a soft sectorred disk has only one.

To run a hard sectored disk when the system has just been booted, do the following:

- #1 Boot the system using a soft sectored disk in the first drive. Remove this disk.
- #2 Turn the ATARI 800/400's power off, then back on.
- #3 Put the hard sectored disk in the first drive. It will now run properly.

Flipped Disks:

The 2.0 ROM documentation says that you can use the back side of disks for ATARI operation. The back side of a disk can be used if the drive containing the flipped disk has already been selected (since the system was booted) while it held a normal disk. The reason for this is similar to the hard sectored disk information above. It relates to the disk's index hole and the drive size analysis.

To use a flipped disk in a drive that has not been selected since the computer was booted, do the following:

- #1 First place a disk in the drive normally. [Do not use the back side of the disk.]
- #2 Select the drive. [For example, for Drive 1, you type "D1."] During this process, the computer looks for the index hole on the disk.
- #3 After the drive has been selected, the original disk may be removed and a flipped disk may be inserted.

OS/A+ Notes:

Several users have reported problems with OS/A+ 4.0. Some users have had difficulties getting OS/A+ to work with 80 track drives. If you are having similar problems, contact Optimized Systems Software (OSS) for assistance. [Optimized Systems Software, Inc., 10379 Lansdale Avenue, Cupertino, CA 95014, (408)446-3099.]

Users have found that sometimes OS/A+ refuses to do single density formatting on ATARI 810 drives. Some users have solved this problem by running ADOS to turn on the ATARI 810.

The OS/A+ COPY program requires 48k of ATARI RAM to run, not 32k. OSS has a new fix that eliminates ATARI single to double density copy problems.

The ATR8000's 1.2 ROM told OS/A+ that an 8" disk was a 5 1/4" disk. The 2.0 ROM doesn't -- it tells OS/A+ that an 8" disk is an 8" disk. OS/A+ responds with "FATAL I/O ERROR." Call OSS for the 8" OS/A+ fix.

CP/M Notes:

described in the cover letter, if you have CP/M your CP/M disk probably needs updating. Send us your original CP/M disk with a short letter and we'll update it, add MODEM7 and return it promptly. If you have an older version of Auto Term, send that disk too, and we'll also update it.

The ATR8000 Terminal Program:

The Auto Term program, used in the preboot process of CP/M, should be backed up. It is an ATARI DOS program, so use ATARI DOS to make a backup copy.

A portion of the terminal program information has been updated since the printing of the ATR8000 manual. The changes are explained in the Terminal Program Addendum (provided with 64k ATR8000s).

Loading CP/M:

To load CP/M, do the following: boot with the Auto Term disk, as described in the manual. Reset the ATR8000. Put the CP/M boot disk in Drive A. Press <return> until "ATRMON" shows on the screen. Press "B<return>" to boot CP/M.

CP/M Utility Programs:

Two of the CP/M utility programs described in the ATR8000 manual are still being "debugged." These are DISKDEF.COM and CONFIGUR.COM. MODEM7 has been completed.

MODEM7.COM:

This is a modem program to run the D.C. Hayes Smart Modem from the RS-232 Port of ATR8000. This program has a large menu of available functions. It is now available.

DISKDEF.COM:

This is a program that will define CP/M disk parameters to enable the ATR8000 to read nearly any CP/M disk format. [This program is not to be confused with the CP/M program DISKDEF.LIB.] There are several types of disk formats you can read without using DISKDEF. These are:

8":	Density	Bytes	Sectors	Tracks	Interleave
	*single	128	* 26	* 77	1 in 6
	double	256	* 26	* 77	no
	double	512	* 16	* 77	no
	double	1024	* 9	* 77	no

* The CP/M standard

Examples: single density Xerox 820 disks, single density Bigboard disks, double density Xerox 820-II disks, double density Pickles and Trout disks for the TRS80 Model II.

5 1/4":

	Density	Bytes	Sectors	Tracks	Interleave
	single	128	* 18	* 40	1 in 5
	double	256	* 18	* 40	no
	double	512	* 10	* 40	no
	double	1024	* 5	* 40	no

Examples: single density Xerox 820 disks, single density Cromemco disks.

If you want to use Kaycomp or Osborne disks, we have a setup program that will allow you to use these disks.

The 2.0 ROM is able to run ATARI programs that wouldn't run with earlier ROM versions. If you have any ATARI DOS, OS/A+ or CP/M programs that won't work properly with the 2.0 ROM, send us a copy of the software and we'll do our best to try to make it compatible.

CONFIGUR.COM:

This is a program for defining the parameters of your system's peripherals. It is an alternative to the symbolic patch function of DDSYSGEN (in #3).

Changes to DDSYSGEN:

The DDSYSGEN program was revised after the ATR8000 manual was completed. For information about DDSYSGEN, refer to the DDSYSGEN Addendum included with 64k ATR8000s.

DISKMON:

The SELECT command of DISKMON.COM is explained incorrectly in the ATR8000 manual. It should be SELA instead of SELECTa.

When you change disks in the drive that DISKMON is examining, you need to log off, then log back on the drive (using SEL). This alerts the program that a new disk resides in the drive.

The BACKUP command is used to backup disks. The source and destination disks must be the same density and must be formatted with the same sector size. DISKMON can be used to determine the sector size of a disk by doing the following:

#1 Run DISKMON and log onto the disk to be examined.

#2 Say, "RT1S1<return>."

#3 The screen will display a 128 byte block. Wait for the drive light to go out.

#4 So far, one 128 byte block has been read. Now, say "R<return>". The next 128 bytes are displayed. Keep doing R<return> until the drive light comes back on, taking note of the number of blocks. The number of 128 byte blocks that are displayed before the drive light comes back on tells you what the sector size of the disk is. The following chart interprets this number for you:

# Of Blocks Read Before Light Comes On	Interpretation
1	= 128 bytes/sector
2	= 256 bytes/sector
4	= 512 bytes/sector
8	= 1024 bytes/sector

Installing CP/M Applications Software:

Several 64k ATR8000 users have asked questions about the options in the INSTALL programs of some CP/M application programs (like Word Star). The following describes the selections to install Word Star for an ATR8000, an ATARI and a parallel printer.

The INSTALL program offers many options. For first time installations, choose to work with WSU.COM (uninstalled Word Star). Then make the following selections:

- Lear Siegler ADM-31 terminal
- Teletype-like printer
- No Communications Protocol
- CP/M List Output Driver (LST:)

SWEEP36:

SWEEP36 is a public domain program that allows users with single drive systems to make backups with less effort. This program will be added to all updated CP/M disks and all new ATR8000 CP/M distribution disks.

The ATR8000 ROM:

Some of the earlier ATR8000s were shipped with Version 1 ROMs. If you had one of these ROMs, you should have recently received a 2.0 ROM. The Version 2.0 ROM fixes problems that some users experienced with ATARI programs (such as loading some ATARI games). It also allows for faster disk reads. Disk access is approximately 30% faster than it has been with ATARI DOS and OS/A+.

The 2.0 ROM has an automatic printer buffer for ATARI DOS and OS/A+. 16k ATR8000s have a 4k buffer; 64k ATR8000s have a 48k buffer.

J11:

In Version 1 ROMs, jumper option J11 was undefined. The 2.0 ROM defines J11. Plugged (active) J11 tells the ATR8000 that an 850 is connected to the ATR8000 and it disables the ATR8000's printer ports. When plugged, it is not necessary to run PRINTOFF.BAS to print from the 850.

Some early ATR8000s were shipped with J11 plugged active. Check your ATR8000. If J11 is plugged and you are not using an 850, the jumper should be removed from J11 to enable the printer ports of the ATR8000.

Radio Frequency Interference:

Some ATR8000 users have encountered radio frequency interference problems. If you are having such problems, make sure that all in/out cables are kept away from the ATR8000 power cord. If the cable binding method shown in DIAGRAM 1 of the manual (Page 11) doesn't seem to help with interference, try looping the monitor/TV cable five times through a ferrite core. Early ATR8000s did not have the RFI filter properly grounded to the bottom of the enclosure. If your unit is one of these and you are having RFI problems send us your unit and we'll do this for you.

Using a RS-232 Terminal:

you connect a RS-232 terminal to the ATR8000 in place of the ATARI 800/400, the terminal needs to be configured to be 9600 baud, odd parity, 7 bits and 1 stop bit.

New Products:

CO-POWER-88:

CO-POWER-88 is for computerists who want to expand the capacity of the Z80|CP/M system. CO-POWER-88 is a powerful, 16-bit, 8088 coprocessor. It is available in two RAM sizes: 128k or 256k. CO-POWER-88 runs CP/M-86. It also runs MSDOS, the operating system of the IBM-PC. (It cannot currently do the special functions of the IBM-PC, but will be able to soon.)

With CO-POWER-88 installed, the user can switch between the Z80|CP/M system and the 8088|CP/M-86 & MSDOS system.

An example of the capability of a CO-POWER-88|CP/M-86: Running Supercalc under CP/M 2.2, there is 29k of memory available to construct a spread sheet. Running Supercalc-86 under CP/M-86 with the 256k CO-POWER-88, there is 215k of memory available to construct a spread sheet. (The data files of Supercalc and Supercalc-86 are compatible.)

While operating under the Z80|CP/M 2.2 system, the RAM of CO-POWER-88 will be able to be used as a memory disk drive, M. Using M can greatly increase job time because it eliminates disk access time. For example, M can be used to compile programs or to do word processing. Files in M can be saved to one of the system's disk drives by using PIP.

CO-POWER-88 is available for the 64k ATR8000, the Xerox 820 and 820-II, and the Bigboard. It will soon be available for nearly all Z80 and 8080 microcomputers that operate CP/M.

PRICES:	*128k CO-POWER-88	\$ 799.95
	*128k add-on RAM unit	\$ 300.00
	256k CO-POWER-88	\$1000.00
	with CP/M-86	\$1250.00
	CP/M-86 for CO-POWER-88	\$ 250.00
	MSDOS for CO-POWER-88	—CALL—

